

Application No. 09/880,985  
 Amendment "A" dated September 12, 2005  
 Reply to Office Action mailed July 8, 2005

### AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

1. (Currently Amended) In a system including a television and a video transmission medium, wherein interactive broadcast data text descriptions such as electronic program guide information, news headlines, sports scores, or other similar kinds of periodically updated information that can be displayed as text simultaneously with other programming is transmitted across the video transmission medium, and wherein the system also includes a management system having a digital processor for processing one or more unique digital signatures that correspond to the interactive broadcast data, and an input device for inputting other digital data that corresponds to user instructions input by a user when searching for particular interactive broadcast data, television is configured to receive the interactive broadcast data, and wherein the interactive broadcast data includes text descriptions, a method for efficiently searching the interactive broadcast data in response to find a string of text input by a user in order to identify the particular interactive broadcast data desired by the user, the method comprising:

receiving at the management system unique binary signatures for the interactive broadcast data text descriptions, each of the unique binary signatures created using a first function adapted to convert the interactive broadcast data into the unique binary signatures having a fixed number of bytes, and storing the unique binary signatures at the management system;

receiving binary signatures of the interactive broadcast data text descriptions;  
inputting from the input device to the management system receiving a user-entered text string from an input device;

using a second function that is different from the first function, and that is adapted to converting the user-entered text string into a unique binary signature that is stored at the management system, the unique binary signature of the user-entered text string have the same number of fixed bytes as the unique binary signature converted by the first function for the interactive broadcast data;

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retrieving and comparing the unique binary signatures of the interactive broadcast data text descriptions to the unique binary signature of the user-entered text string; and

determining based on the comparison, the management system identifying one and only one item of interactive broadcast data that matches the input text string, otherwise the management system identifying no match if the user-entered text string is included in any of the interactive broadcast data text descriptions.

2. (Currently Amended) The method as recited in claim 1, wherein receiving binary signatures of the interactive broadcast data text descriptions comprises the following:

receiving binary signatures of the interactive broadcast data text descriptions, the binary signatures being converted from interactive broadcast data text descriptions using a first set of specified rules, which cause the interactive broadcast data text descriptions to differ from an original version prior to conversion into the binary signatures.

3. (Currently Amended) The method as recited in claim 2, wherein converting the user-entered text string into a binary signature comprises the following:

converting the user-entered text string into a binary signature using a second set of specified rules, which causes the user-entered text string to differ from an original version prior to conversion into the binary signatures.

4. (Original) The method as recited in claim 3, wherein the first set of specified rules and the second set of specified rules are the same.

5—7. (Cancelled)

8. (Original) The method as recited in claim 1, wherein receiving binary signatures of the interactive broadcast data text descriptions comprises the following:

receiving binary signatures of electronic program guide text descriptions.

9—12. (Cancelled)

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13. (Original) The method as recited in claim 1, wherein comparing the binary signatures of the interactive broadcast data text descriptions to the binary signature of the user-entered text string comprises the following:

comparing the binary signatures of electronic program guide text descriptions to the binary signature of the user-entered text string.

14—17. (Cancelled)

18. (Original) The method as recited in claim 1, wherein receiving binary signatures of the interactive broadcast data text descriptions comprises the following:

a set top box associated with a television receiving binary signatures of the interactive broadcast data text descriptions.

19. (Original) The method as recited in claim 1, wherein receiving a user-entered text string from an input device comprises the following:

a set top box associated with a television receiving a user-entered text string from an input device.

20. (Cancelled)

21. (Original) The method as recited in claim 20, wherein storing the binary signatures of the interactive broadcast data text descriptions comprises the following:

storing the binary signatures of the interactive broadcast data text descriptions on one or more physical storage media

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22. (Original) The method as recited in claim 1, wherein comparing the binary signatures of the interactive broadcast data text descriptions to the binary signature of the user-entered text string comprises the following:

comparing each binary signature of an interactive broadcast data text description to the results of a logical OR operation performed on each binary signature of an interactive broadcast data text description and the binary signature of the user-entered text string.

23. (Original) The method as recited in claim 1, further comprising:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions.

24. (Currently Amended) The method as recited in claim 23, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more electronic program guide text descriptions.

25. (Original) The method as recited in claim 23, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the user-entered text string is included in any of the interactive broadcast data text descriptions.

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26. (Original) The method as recited in claim 25, wherein receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the user-entered text string is included in any of the interactive broadcast data text descriptions comprises the following:

receiving additional text, which is associated with one or more interactive broadcast data text descriptions, if the results of a logical OR operation performed on any of the binary signatures of the one or more interactive broadcast data text descriptions and the binary signature of the user-entered text string is identical to any of the binary signatures of the one or more interactive broadcast data text descriptions.

27. (Original) The method as recited in claim 1, wherein determining based on the comparison, if the user-entered text string is included in any of the interactive broadcast data text descriptions comprises the following:

determining based on the comparison, if the user-entered text string is included in any electronic program guide text descriptions.

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28. (Currently Amended) ~~A computer program product for implementing, in a system including a television and a video transmission medium, wherein interactive broadcast data text descriptions such as electronic program guide information, news headlines, sports scores, or other similar kinds of periodically updated information that can be displayed as text simultaneously with other programming is transmitted across the video transmission medium, and wherein the system also includes a management system having a digital processor for processing one or more unique digital signatures that correspond to the interactive broadcast data, and an input device for inputting other digital data that corresponds to user instructions input by a user when searching for particular interactive broadcast data, a computer program product for implementing a method for efficiently searching the interactive broadcast data in response to a string of text input by a user in order to identify the particular interactive broadcast data desired by the user, a set-top box, and a video transmission medium, wherein interactive broadcast data is transmitted across the video transmission medium, wherein the television is configured to receive the interactive broadcast data, and wherein the interactive broadcast data includes a text description of the subject matter, a method for efficiently searching interactive broadcast data to find a string of text, the computer program product comprising:~~

a computer-readable medium carrying computer-readable instructions, that when executed at the ~~processor of the management system~~ set-top box, cause the ~~management system~~ set-top box to perform the following:

receiving at the management system unique binary signatures for the interactive broadcast data text descriptions, each of the unique binary signatures created using a first function adapted to convert the interactive broadcast data into the unique binary signatures having a fixed number of bytes, and storing the unique binary signatures at the management system;

~~receive binary signatures of the interactive broadcast data text descriptions;~~  
input from the input device to the management system ~~receive a user-entered text string from an input device;~~

use a second function that is different from the first function, and that is adapted to convert the user-entered text string into a unique binary signature that is stored at the management system, the unique binary signature of the user-entered text string have the

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same number of fixed bytes as the unique binary signature converted by the first function for the interactive broadcast data;

retrieve and compare the unique binary signatures of the interactive broadcast data text descriptions to the unique binary signature of the user-entered text string; and

determine based on the comparison, the management system identifying one and only one item of interactive broadcast data that matches the input text string, otherwise the management system identifying no match if the user-entered text string is included in any of the interactive broadcast data text descriptions.

29. (Original) The computer program product as recited in claim 28, wherein the computer executable instructions that when executed at the set top box cause the set top box to receive binary signatures of the interactive broadcast data text descriptions comprise the following:

computer executable instructions that when executed at the set top box cause the set top box to receive binary signatures of electronic program guide text descriptions.

30. (Original) The computer program product as recited in claim 28, wherein the computer-readable medium is one or more physical storage media.

31. (New) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are converted immediately before they are loaded into RAM at the management system such that the interactive broadcast data text descriptions are converted to unique electronic program guide signatures as they pass from electronic program guide data to RAM.

32. (New) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are converted before transmission to the management system.

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33. (New) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are created prior to transmission to the management system.

34. (New) The method of claim 1, wherein the unique binary signatures for the interactive broadcast data are created by the management system.

35. (New) The method of claim 1, wherein the first function is either a hash or digest function that produces unique hash or digest values for the unique binary signatures for the interactive broadcast data text descriptions.

36. (New) The method of claim 35, wherein the second function is either a hash or digest function that produces a unique hash or digest value for the unique binary signature for the user entered-text string.

37. (New) The method of claim 1, wherein the management system identifies the one and only one item of interactive broadcast data that matches the user entered-text string, and wherein full text descriptions corresponding to the interactive broadcast data are displayed at the management system.

38. (New) The method of claim 37, wherein a plurality of user entered-text strings are input into the management system, and wherein the management system identifies a plurality of one and only one item of interactive broadcast data that matches each of the user entered-text strings, all of the full text descriptions corresponding to each of the matching interactive broadcast data are simultaneously displayed at the management system.